

FAS – Office of Global Analysis (OGA)
United States Department of Agriculture (USDA)
International Operational Agriculture Monitoring Program



Week 1 Summary

- 1 After a short-term drought, the rainfed winter wheat and barley regions of northern Iraq are experiencing the first significant rain events of the season, thus recharging topsoil moisture for planting. Despite a precipitation shortage at the beginning of the winter grains season, post finds that overall production prospects are improved for 2008. It is noted that rainfed wheat and barley constitute 40-50 percent of the total wheat and barley production.
- 2 December 6th, 2007 Joint Agricultural Weather Facility states that cumulative precipitation remains below normal. Recent rain events have improved soil moisture conditions, and cumulative precipitation for Dahuk, Arbil and Ninawa provinces has increased closer to normal (Figure 1 & 2). Satellite derived surface wetness indices also show an increase in cumulative moisture for the northern regions.
- 3 Normalized Difference Vegetation Indices (NDVI) derived from MODIS satellite imagery and used to assess crop condition and abundance shows a slight decrease in overall green vegetation compared to the five year short term average. A particularly interesting find is a significant increase of green vegetation in the Mesopotamia Marshes of southern Iraq, which could be partly attributed to the USAID restoration efforts (Figure 3).
- 4 AWiFSIRSP6 satellite data provided by the National Geospatial Intelligence Agency (NGA) continues to be collected over Iraq, in which the month of November nearly provides entire coverage (Figure 4). Maximum NDVI values for the month of November reveal that the largest abundance of green crops is located mostly in irrigated regions. Figure 5 illustrates NDVI only for cropland areas and was developed by extracting maximum NDVI values from a Geocover LC (MDA Federal) derived agricultural mask. Rainfed regions do not show significant greening as of yet, but next months NDVI composite will be used as a comparison.
- 5 Sample areas using Quickbird high resolution imagery provided by NGA has consistently shown field preparation and a later start of season throughout the Northern provinces as compared to previous years. Image acquisition will continue throughout the growing season.

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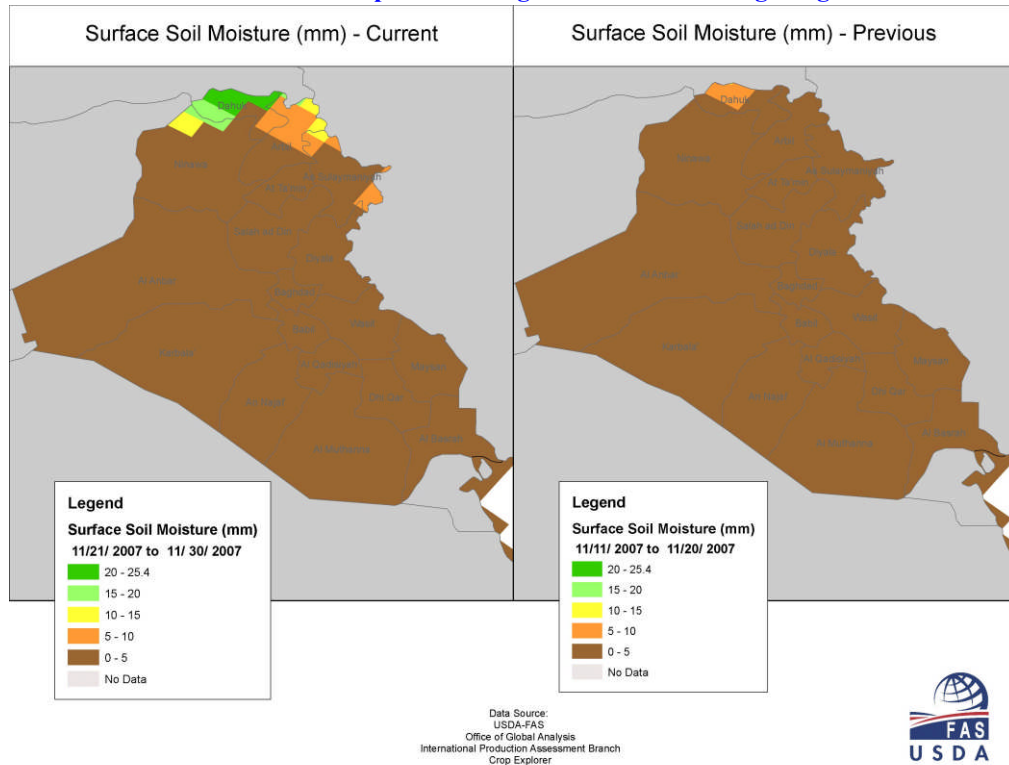


Figure 1: Increases in precipitation have boosted topsoil moisture in the northern rainfed regions of Iraq.

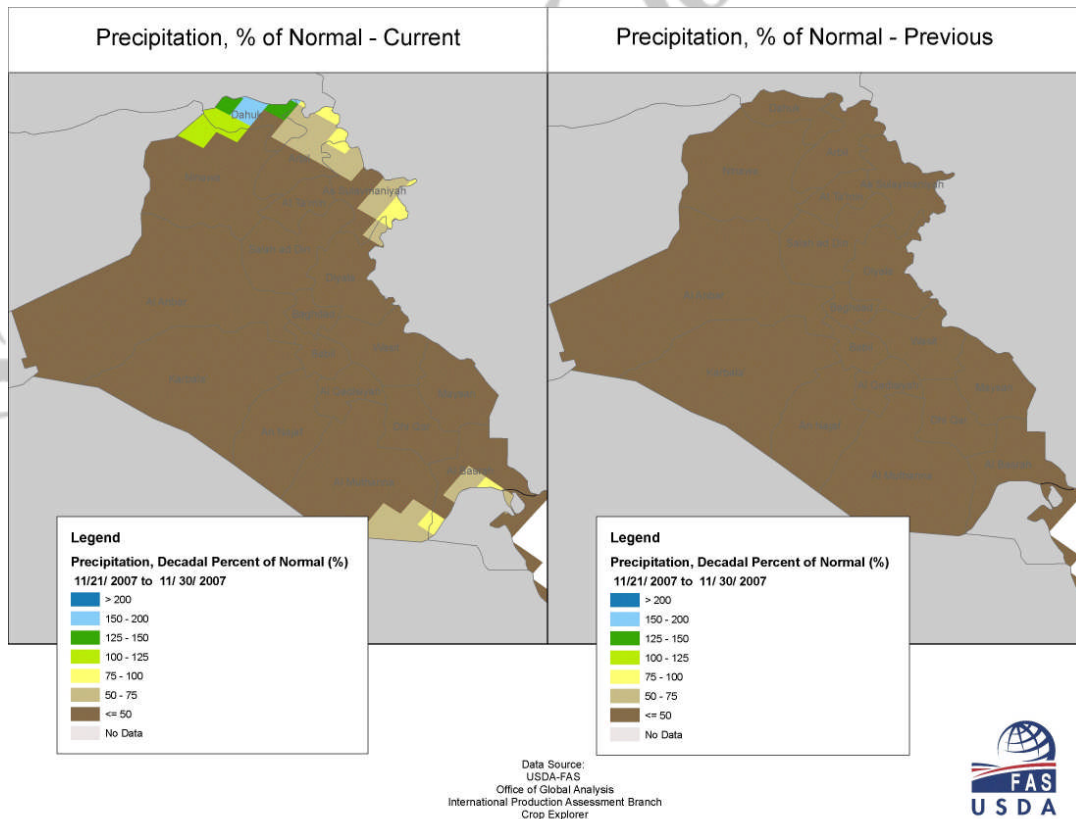
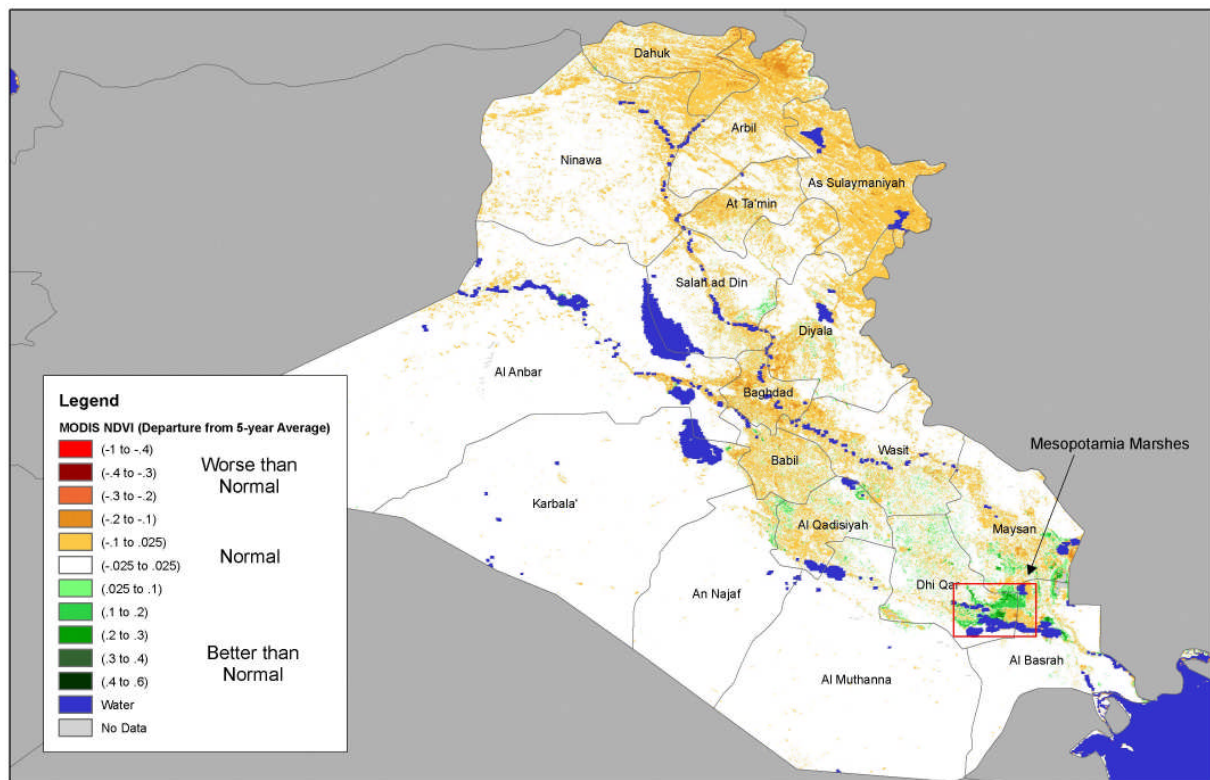


Figure 2: Precipitation in the Northern provinces has increased closer to the seasonal cumulative normal.

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MODIS NDVI 16-day Anomaly - Departure from 5-Year Average



Data Source: MODIS-250m
Data Provided by: UMD
In Support of USDA-FAS
Crop Explorer



Figure 3: MODIS NDVI shows slightly lower than normal green vegetation cover for this time of the crop season.

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IRAQ AWiFS MAXIMUM NDVI COMPOSITE (November)

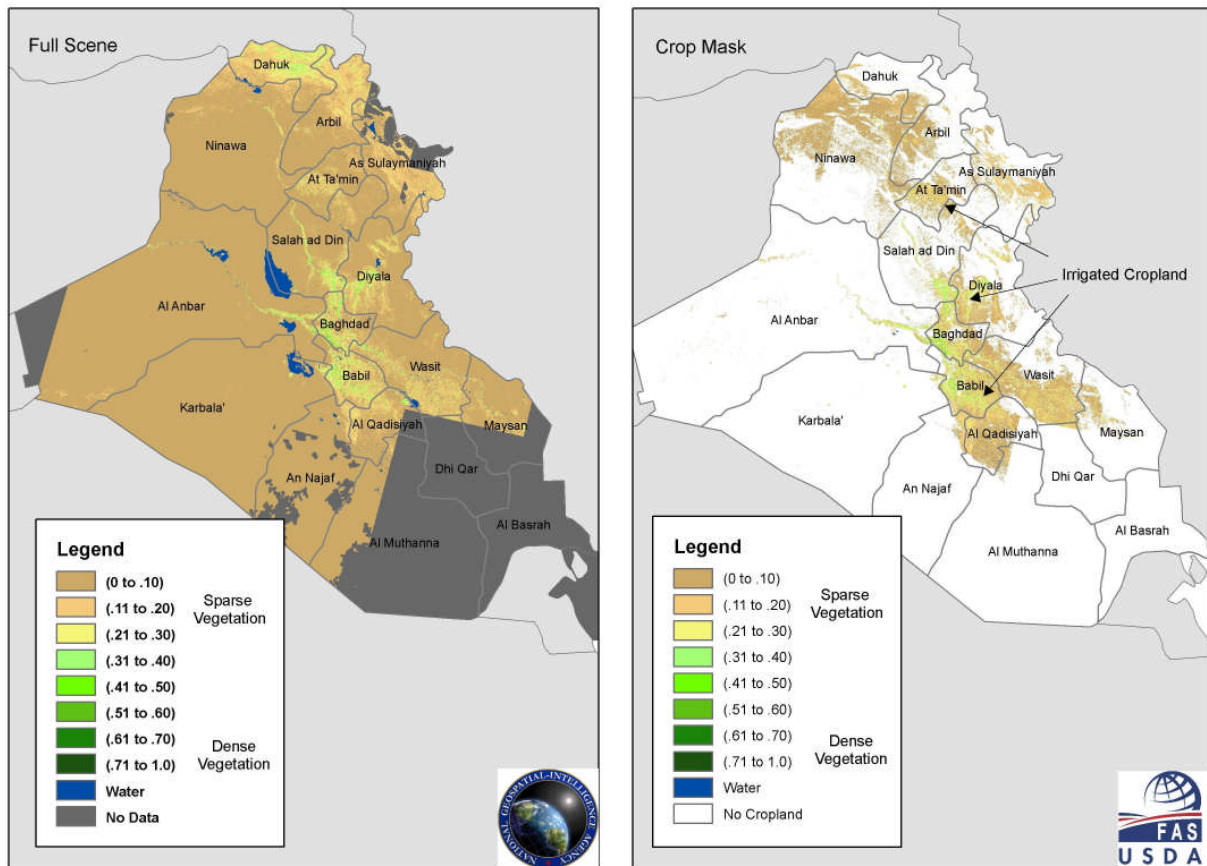


Figure 4: AWiFS derived NDVI for November reveals an abundance of dense green vegetation occurring in irrigated regions.

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